UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,764	01/24/2002	Albert Marion Beaty	65250-001	4600

27305 7590 10/02/2003

HOWARD & HOWARD ATTORNEYS, P.C.
THE PINEHURST OFFICE CENTER, SUITE #101
39400 WOODWARD AVENUE
BLOOMFIELD HILLS, MI 48304-5151

EXAMINER	
FONTAINE, MONICA A	

ART UNIT	PAPER NUMBER
1732	5

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K.

Office Action Summary	Application No. 10/056764	Applicant(s) BERRY
	Examiner Joseph Moy	Art Unit 3727

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-14 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Claims 13 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected fuel tank, there being no allowable generic or linking claim.

Applicant's election with traverse of Claims 1-12 in Paper No. 4 is acknowledged. The traversal is on the ground(s) that all inventions require overlapping searches. This is not found persuasive because the separate inventions as claimed do not require the same limitations, and furthermore, the exclusive classification of claims 13 and 14 in different classes clearly indicates the divergent subject matter contained therein.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satake et al. (U.S. Patent 5,085,819), in view of Mink et al. (U.S. Patent 5,882,750).

Regarding Claim 1, Satake et al., hereafter "Satake," show that it is known to carry out a method of fabricating a heat resistant article (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of combining a thermoplastic and silica into a compound (Column 3, line

44 - Column 4, line 27; Column 10, line 58 - Column 11, line 5), heating the compound (Column 4, lines 28-37), and forming a hollow tank with the compound (Column 3, lines 8-16; Column 11, line 64 - Column 12, line 4; It is noted that it would be obvious to injection mold a tank with a fill opening in order to produce a practical container.) Satake does not show using an amorphous silica. Mink et al., hereafter "Mink," show that it is known to mold a fuel tank using a thermoplastic resin and an amorphous silica (Column 3, lines 9-17; Column 5, lines 24-37). Mink and Satake are combinable because they are concerned with a similar technical field, namely, that of molding processes which produce heat and effusion resistant containers. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica in Satake's molding process in order to take advantage of certain chemical properties of amorphous silica.

Regarding Claim 2, Satake shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the combining is further defined as mixing granules of the thermoplastic with a filler (Column 17, lines 13-19). Satake does not explicitly show mixing granules of the themoplastic with a filler of powdered amorphous silica. Mink shows that it is known to use an amorphous silica as a powdered ingredient in a composite resin (Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Regarding Claim 3, Satake shows the process as claimed as discussed in the rejection of Claim 2 above, including a process that includes heating the compound to a viscous form

(Column 20, lines 50-64; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".), meeting applicant's claim.

Regarding Claim 4, Satake shows the process as claimed as discussed in the rejection of Claim 3 above, including a process that includes heating the compound to a temperature of between 200 and 500 degrees Fahrenheit (Column 20, lines 42-49), meeting applicant's claim.

Regarding Claim 5, Satake shows the process as claimed as discussed in the rejection of Claim 4 above, including a process further defined as heating the thermoplastic to a viscous condition (It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".) and then adding a filler (Column 17, lines 13-19). Satake does not explicitly show mixing granules of the themoplastic with a filler of powdered amorphous silica. Mink shows that it is known to use an amorphous silica as a powdered ingredient in a composite resin (Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Regarding Claim 6, Satake shows the process as claimed as discussed in the rejection of Claim 5 above, including a process further defined as compounding the thermoplastic and filler in an extruder (Column 17, lines 20-25). Satake does not explicitly show compounding the themoplastic with a filler of amorphous silica. Mink shows that it is known to use an amorphous silica as a powdered ingredient in a composite resin (Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use

Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Regarding Claim 7, Satake shows the process as claimed as discussed in the rejection of Claim 6 above, including a process that extrudes the compound into a strand and dividing the strand into pellets of the homogeneous compound (Column 17, lines 26-27), meeting applicant's claim.

Regarding Claim 8, Satake shows the process as claimed as discussed in the rejection of Claim 7 above, including heating the pellets of the compound into a viscous condition (It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".) and molding the article (Column 17, lines 34-38; It is noted that it would be obvious to mold a fuel tank by this process, as this application is cleary identified by Satake.).

Regarding Claim 10, Satake shows that it is known to carry out a method of fabricating a heat resistant article (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of heating and mixing pellets of a thermoplastic with a filler into a viscous compound (Column 3, line 44 - Column 4, line 27; Column 17, lines 13-27; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".), and forming a hollow tank with the compound (Column 3, lines 8-16; Column 11, line 64 - Column 12, line 4; It is noted that it would be obvious to injection mold a tank with a fill opening in order to produce a practical container.) Satake does not show using an amorphous silica as his filler. Mink et al., hereafter "Mink," show that it is known to mold a fuel tank using a thermoplastic resin and a powder of amorphous silica (Column 3, lines 9-17; Column 5, lines

24-37). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica in Satake's molding process in order to take advantage of certain chemical properties of amorphous silica.

Regarding Claim 11, Satake shows that it is known to carry out a method of fabricating an automotive component (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of combining a thermoplastic and filler into a compound (Column 3, line 44 - Column 4, line 27; Column 17, lines 13-27), heating the compound (Column 17, lines 20-27), and forming a component with the compound (Column 17, lines 28-38). Satake does not show using an amorphous silica as his filler. Mink et al., hereafter "Mink," show that it is known to mold a fuel tank using a thermoplastic resin and a powder of amorphous silica (Column 3, lines 9-17; Column 5, lines 24-37). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica in Satake's molding process in order to take advantage of certain chemical properties of amorphous silica.

Regarding Claim 12, Satake shows that it is known to carry out a method of fabricating a heat resistant article (Column 1, lines 26-29; Column 12, lines 59-62) comprising the steps of adding granules of a thermoplastic into an extruder (Column 17, lines 13-14), heating the granules of the thermoplastic in the extruder to reach a viscous condition (Column 20-27; It is noted that any material at any temperature will have a viscosity and can therefore be described as being in "viscous form".), adding a filler into the viscous thermoplastic to form a homogenous compound (Column 17, lines 13-27; It is noted that the instant claim language does not require any specific order or timing for the mixing of the granules and filler.), extruding the compound through the extruder to form a strand of the compound, cooling the strand into a solid (Column 17, lines 20-

26), chopping the strand into pellets (Column 17, lines 26-27), pouring the pellets into a barrel of a moulding machine (Column 17, lines 28-29), heating the barrel of the moulding machine to turn the pellets into a viscous paste (Column 17, lines 28-35), and injecting the viscous paste into a mold to form a hollow article (Column 17, lines 35-37). Satake does not explicitly show compounding the themoplastic with a filler of amorphous silica. Mink shows that it is known to mold a fuel tank using an amorphous silica as a powdered ingredient in a composite resin (Column 5, lines 8-27). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Mink's amorphous silica as the powdered filler in Satake's molding process in order to take advantage of certain chemical properties of an article made with amorphous silica.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Satake and Mink as applied to claims 1-8 above, and further in view of Hayes et al. (U.S. Patent 5,904,888). Satake and Mink shows the process as claimed as discussed in the rejection of Claims 1-8 above, but they do not specify a certain composition of the molding material. Hayes et al., hereafter "Hayes," show that it is known to mold containers having very good mechanical and chemical-resistant properties using a composite material wherein powdered filler is in the range of 10% to 30% by volume in the material (Column 3, line 59- Column 4, line 10). Hayes and Satake are combinable because they are concerned with a similar technical field, namely, that of molding mechanically and chemically stable articles using a composite resin. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a molding material of Hayes' composition in the process of Satake and Mink in order to take advantage of the molded quality of articles having filler composition from 10% to 30%.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with regard to molding compositions including silica to molding containers:

U.S. Patent 4,297,309 to North

U.S. Patent 4,661,535 to Borroff et al.

U.S. Patent 4,946,922 to Reisch et al.

U.S. Patent 6,183,679 to Kawakami et al.

U.S. Patent 6,325,956 to Chaudhary et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 703-305-7239. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 703-305-5493. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Maf
September 22, 2003

MICHAEL COLAIANNI
PRIMARY EXAMINER